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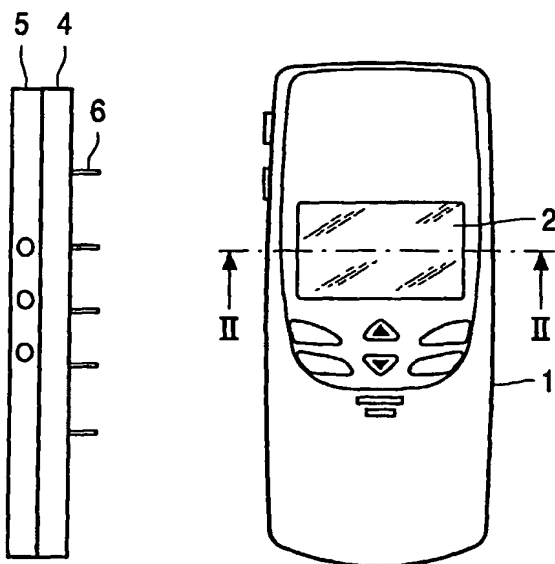
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(54) Title: APPARATUS WITH DISPLAY



(57) Abstract: A display system makes use of removable or detachable display panels (10, 14), which are preferably rollable, such as cartridges which can be discarded after the display stops functioning. The actual display has a two part housing (4,5), one of which contains the removable or detachable display panel. This housing (4) contains electronics like a battery, input devices (buttons, joystick), a radio frequency (RF) antenna and chips and possibly memory and processors. The other housing (5) contains the display panel (14) or substrate (10). If the display panel (14) or substrate (10) tears, which is not unlikely for flexible, thin, displays, only the panel has to be replaced and not the complete device.



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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/47363 A (E INK CORP) 13 June 2002 (2002-06-13) page 5, line 21 -page 9, line 15 page 14, line 28 -page 17, line 2; figures 1-3	1-34
X	EP 0 860 969 A (NOKIA MOBILE PHONES LTD) 26 August 1998 (1998-08-26) the whole document	18, 20, 24-27, 31-34
E	WO 2004/001704 A (KONINKL PHILIPS ELECTRONICS NV ; VAN RENS BAS J E (NL)) 31 December 2003 (2003-12-31) the whole document	1, 5-12, 15-18, 20, 24-27

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 302 189 A (TELEFONBAU & NORMALZEIT GMBH) 8 February 1989 (1989-02-08) the whole document _____	13, 14, 19, 28-30, 34
A	DE 94 16 849 U (SIEMENS AG) 2 March 1995 (1995-03-02) the whole document -----	13, 14, 19, 28-30, 34

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0247363	A	13-06-2002	AU 3061002 A EP 1340360 A2 WO 0247363 A2 US 2002090980 A1	18-06-2002 03-09-2003 13-06-2002 11-07-2002
EP 0860969	A	26-08-1998	FI 970755 A EP 0860969 A2 JP 10257143 A US 2001034249 A1	22-08-1998 26-08-1998 25-09-1998 25-10-2001
WO 2004001704	A	31-12-2003	WO 2004001704 A1	31-12-2003
EP 0302189	A	08-02-1989	DE 3726225 C1 AT 108931 T EP 0302189 A2 ES 2060618 T3	04-08-1988 15-08-1994 08-02-1989 01-12-1994
DE 9416849	U	02-03-1995	DE 9416849 U1	02-03-1995